

ABSTRACT

Acoustic imaging systems are provided. A preferred system includes a protective cover configured to mate with a transducer body. The transducer includes a two-dimensional transducer element matrix array formed by a plurality of individually controllable transducer elements. The protective cover is superposed above the two-dimensional matrix array and is transparent to incident acoustic energy. Preferably, the protective cover is shaped to reduce patient discomfort and repetitive motion injuries to sonographers. Alternative embodiments comprise a shaped two-dimensional transducer element matrix array. Methods for improved ultrasound imaging are also provided.